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Attorney Docket No. 2001P07403US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Sydon et al.
Application No. : 09/754,905
Filed : January 4, 2001
Art Unit : 2665
Examiner : Nguyen, Steven H D
Title : CORDLESS COMMUNICATION SYSTEM PROVIDING
OPTIMUM SPECTRAL USAGE FOR WIRELESS NETWORKS

MS Appeal Brief
Commissioner for Patents
P.O. Box 1450
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APPELLANT'S BRIEF

This is an appeal from the final Office Action dated January 12, 2005, rejecting claims 1-3 and 6-34.

(1) REAL PARTY IN INTEREST

The real party in interest is Siemens Communications, Inc., the assignee of the entire interest.

(2) RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any related appeals, interferences or judicial proceedings.

(3) STATUS OF CLAIMS

The status of the claims is as follows:

Claims rejected: Claims 1-3 and 6-34

Claims allowed: None

Claims withdrawn: None

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Claims objected to: None

Claims canceled: Claims 4-5

Claims appealed: Claims 1-3 and 6-34

(4) STATUS OF AMENDMENTS AFTER FINAL

The appellant filed an amendment after final making minor corrections to claims 26-32 on March 14, 2005. In the Advisory Action mailed March 28, 2005, the examiner indicated that the amendments to claims 26-32 were entered.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1

Independent claim 1 is directed to a cordless communication system 10 comprising a central unit (12) and at least two remote units (14, 16, 18, 20 & 22) capable of radio frequency communication with the central unit (12) and other of the at least two remote units (14, 16, 18, 20 & 22). A first (e.g., remote unit 14) of the at least two remote units (14, 16, 18, 20 & 22) is capable of providing a request to the central unit (12) for a direct connection with a second (e.g., remote unit 16) of the at least two remote units (14, 16, 18, 20 & 22). The central unit (12) is capable of assigning a dedicated communication channel (“f”) for enabling direct communication between selected ones of the at least two remote units (14, 16, 18, 20 & 22) upon receiving a request from the first remote unit (14). The central unit (12) assigns a dedicated communication channel (“f”) for enabling direct communication between the first and second remote units (14 & 16), whereupon the second remote unit (16) synchronizes to the first remote unit (14). Specification, page 3, line 16 through page 8, line 13 and FIGS. 1, 2 and 3.

Claim 11

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Independent claim 11 is directed to a cordless communication system (10) comprising a central unit (12) and at least two remote units (14, 16, 18, 20 & 22) capable of radio frequency communication with the central unit (12), wherein each of the at least two remote units (14, 16, 18, 20 & 22) is capable of communication with another of the at least two remote units (14, 16, 18, 20 & 22) via a radio frequency connection ("a," "b," "c," "d," or "e") relayed through the central unit (12), and wherein a first of the at least two remote units (e.g., remote unit 14) is further capable of communication with a second of the at least two remote units (e.g., remote unit 16) via a dedicated radio frequency connection ("f") assigned by the central unit (12) for enabling direct communication between the first remote unit (14) and the second remote unit (16). The second remote unit (16) synchronizes to the first remote unit (14) during communication with the first remote unit (14) via the dedicated radio frequency connection ("f"). Specification, page 3, line 16 though page 8, line 13 and FIGS. 1, 2 and 3.

Claim 20

Independent claim 20 is directed to a method (30) for providing direct radio frequency communication between remote units in a cordless communication system comprising: providing a request to a central unit for direct radio frequency communication between a first remote unit and a second remote unit (32); initiating a direct connection between the first remote unit and the second remote unit via a dedicated communication channel assigned to the first remote unit and the second remote unit by the central unit (34); and synchronizing the second remote unit to the first remote unit during direct communication between the first remote unit and the second remote unit via the dedicated communication channel (36 & 38). Specification, page 8, line 14 though page 9, line 18 and FIG. 4.

Claim 32

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Independent claim 32 is directed to a cordless communication system (10) comprising a central unit (12), a first remote unit (e.g., remote unit 14) for radio frequency communication with the central unit (12) and a second remote unit (e.g., remote unit 16) for radio frequency communication with the central unit (12) and the first remote unit (14). The first remote unit (14) synchronizes to the central unit (12) during communication with the central unit (12). The second remote unit (16) synchronizes to the central unit (12) during communication with the central unit (12). Upon receiving a request from the first remote unit (14), the central unit (12) assigns a dedicated radio frequency connection ("f") for enabling direct communication between the first remote unit (14) and the second remote unit (16). Thereafter, the first remote unit (14) functions as a temporary central unit for the second remote unit (16) during direct communication between the first remote unit (14) and the second remote unit (16) so that the second remote unit (16) synchronizes to the first remote unit (14). Specification, page 3, line 16 through page 8, line 13 and FIGS. 1, 2 and 3.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 11-27 and 30-31 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 1-3, 6-10 and 28-29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Miyake et al., U.S. Patent No. 5,903,618.

Claims 11-27 and 30-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyake et al., U.S. Patent No. 5,903,618, in view of Morvan et al., U.S. Patent No. 6,574,452.

(7) ARGUMENT

I. *Rejection of claims 11-27 and 30-31 under 35 U.S.C. § 112, first paragraph*

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The issue is whether the examiner has properly rejected claims 11-27 and 30-31 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

In the Response to the Office Action filed June 17, 2004, independent claim 11 was amended to recite “the second remote unit synchronizing to said first remote unit during communication with said first remote unit via the dedicated radio frequency connection,” while claim 20 was amended to recite “synchronizing the second remote unit to the first remote unit during direct communication between the first remote unit and the second remote unit via the dedicated communication channel.” In making the rejection of the amended claims under 35 U.S.C. § 112, first paragraph, the examiner argued that the specification does not disclose that the first and second remote units exchange the synchronized message via the assigned dedicated communication channel as claimed. The Examiner further asserted that the remote units are synchronized by the central unit (12).

Claims 11 and 20, as amended, recite that *during direct communication between the first remote unit and the second remote unit via the dedicated communication channel*, the second remote unit synchronizes to the first remote unit. This aspect of the invention is clearly described on page 6, line 25 through page 7, line 13, of the specification, which provides:

As shown in FIG. 2, once the central unit 12 initiates the dedicated wireless connection or channel “f” between the first remote unit 14 and the second remote unit 16, the remote units 14 & 16 may then be allowed to communicate directly, i.e., the information communicated is not communicated through the central unit 12. The first or “requesting” unit 14 functions as a “temporary central unit” wherein the second remote unit 16 synchronizes to the first unit 14. Thus, in an embodiment of the communication system 10 wherein the first and second remote units 14 & 16 are comprised respectively of a personal computer and printer each having a cordless data adapter providing access to the wireless network 24, a print job communicated from

the personal computer to the printer would be communicated directly with the printer without first going through the central unit 12.

When communication between the first and second remote units 14 & 16 ceases, the first remote unit 14, or alternately, the second remote unit 16, may provide an indication to the central unit 12 that direct communication between the remote units 14 & 16 has ended. The direct communication channel “f” between the first remote unit 14 and the second remote unit 16 may then be terminated, and its assigned hop sequence, or, alternately, spreading code made available for use by another connection within the wireless network 24. The first remote unit 14 and second remote unit 16 may then return to their original state and again synchronize to the central unit 12 as shown in FIG. 1.

Thus, once the central unit establishes direct communication between the first and second remote units, information communicated between the first and second remote units is not communicated through the central unit. While the second remote unit synchronizes to the first remote unit, all synchronization information, which is information communicated between the first and second remote units, is communicated via the dedicated communication channel. Consequently, the specification provides sufficient written description of the invention as claimed in claims 11-27 and 30-31 in compliance with 35 U.S.C. § 112, first paragraph.

II. Rejection of claims 1-3, 6-10 and 28-29 under 35 U.S.C. § 102(b)

The issue is whether the examiner has properly rejected claims 1-3, 6-10 and 28-29 under 35 U.S.C. § 102(b) as being anticipated by Miyake et al., U.S. Patent No. 5,903,618 (“Miyake”).

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *W.L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Further, “anticipation

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requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Independent claim 1 recites that the second remote unit synchronizes to the first remote unit during direct communication with the first remote unit via the dedicated radio frequency connection.

Miyake fails to disclose, teach or suggest a second remote unit that synchronizes to the first remote unit during direct communication with the first remote unit via the dedicated radio frequency connection. Instead, Miyake specifically discloses that

All the terminals included in the service area of the base station are *always* synchronized with sync signals paged from the base station.

Miyake, Abstract (emphasis added). Thus, *all* terminals of the Miyake system *always* synchronize to the base station via sync signals paged from the base station, even during direct communication between the terminals. Consequently, substituting the lexicography of the present application, Miyake discloses only that during direct communication between a first remote unit and a second remote unit, the first and second remote units would *continue* to synchronize with the central unit, and as a consequence would remain in sync with each other. Nowhere does Miyake disclose that the second remote unit would directly synchronize to the first unit *instead* of the central unit as claimed, thus allowing the central unit to hand off synchronization of the first and second units to the first unit during direct communication between the first and second remote units. As a result, Miyake fails to anticipate the cordless communication system presently recited in independent claim 1 along with its respective dependent claims 2-3, 6-10 and 28-29. Claims 1-3 and 6-10 and 28-29 are therefore patentable over the Miyake reference, and the

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rejection under 35 U.S.C. § 102(b) should be withdrawn.

II. Rejection of claims 11-27 and 30-34 under 35 U.S.C. § 103(a)

The issue is whether the examiner properly rejected claims 11-27 and 30-34 under 35 U.S.C. § 103(a) as being unpatentable over Miyake in view of Morvan et al., U.S. Patent No. 6,574,452 (“Morvan”).

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) the claimed invention must be considered as a whole; (B) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) reasonable expectation of success is the standard with which obviousness is determined. *See MPEP § 2141 and Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 220 USPQ 182, 187 n.5 (Fed. Cir. 1986).

Independent claim 11 recites “a first of said at least two remote units is further capable of communication with a second of said at least two remote units via a dedicated radio frequency connection assigned by said central unit . . . , the second remote unit synchronizing to said first remote unit,” while independent claim 32 recites that “upon receiving a request from the first remote unit, the central unit assigns a dedicated radio frequency connection” and that “the second remote unit so that the second remote unit synchronizes to the first remote unit. Similarly, independent method claim 20 recites the steps of “initiating a direct connection between the first remote unit and the second remote unit via a dedicated communication channel assigned to the first remote unit and the second remote unit by the central unit; and synchronizing the second remote unit to the first remote unit during direct communication between the first remote unit and the second remote unit via the dedicated communication channel.”

As noted by the examiner in making the rejection under 35 U.S.C. 103, Miyake fails to disclose, teach or suggest a second remote unit that synchronizes to the first remote unit during direct communication with the first remote unit via the dedicated radio frequency connection as claimed in claims 11, 20 and 22. Instead, Morvan is relied upon for that teaching. However, Morvan fails to disclose teach or suggest a central unit that assigns the dedicated radio frequency connection. Instead, Morvan discloses a system including a plurality of communication device and a base station. Normally, communication between communication devices passes through the base station. When a direct connection between two of the communication devices is desired, the connection is assigned by one of the requesting devices, not the base station. The base station is passive, serving only to pass a message from the requesting communication device to the requested communication device that direct communication between the devices is requested. Moreover, this message is passed “transparently” to the base station. Specifically, Morvan discloses

the communication device 4102 sends a message 4503 which passes, transparently, through the base station 4101, in order to reach the communication device 4103. This message 4503 contains a request for transmission in confidential mode and the operating mode in which the device 4103 must operate during the confidential transmission. The device 4103 then replies with its acceptance or rejection of the confidential communication request, by means of a message 4504.

In the example illustrated in FIG. 35, the communication device 4103 receives an instruction with a view to its operation in mobile station operating mode and the message 4504 signifies an acceptance of the confidential communication.

Following reception of the message 4504, the communication device 4102 terminates the connection with the communication device 4103, by implementing the appropriate procedures provided for by the DECT standard, during the steps 4505 and 4506.

When the connection with the communication device 4103, through the base station 4101, is closed, the communication device 4102 automatically switches into base station operating mode. The communication device 4102 is then referred to as the "new base station". Next, the communication device 4103 starts a procedure for synchronising itself with the new base station 4102, after having performed a detachment procedure with the base station 4101. When the communication device 4103 is synchronised with the communication device 4102, the communication device 4103 uses the procedure defined by the DECT standard for establishing a connection in encrypted mode (exchange of messages 4507 and 4508), in order to exchange confidential data between the communication devices 4102 and 4103.

It should be noted that there are then no more "holes" in the security since all the other stations are outside the cell composed of the communication devices 4102 and 4103.

At the end of the communication between the communication devices 4102 and 4103, the communication device 4102 again switches in order to return to the mobile station operating mode.

Morvan, column 41, lines 7-46.

M.P.E.P. 2131.02 provides that if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. M.P.E.P. 2131.02, *citing In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

In the Miyake system, the base station controls all communication within the system. Specifically, as noted above, Miyake teaches that one of the remote terminals establishes

All the terminals included in the service area of the base station are *always* synchronized with sync signals paged

from the base station.

Miyake, Abstract (emphasis added). Thus, *all* terminals of the system *always* synchronize to the base station via sync signals paged from the base station.

In the system taught by Morvan, on the other hand, the communication devices themselves, not the base station, control communication within the system. For direct communication to be established between communication devices is established, Morvan requires that

the communication device 4102 sends a message 4503 which passes, transparently, through the base station 4101, in order to reach the communication device 4103. . . .

When the connection with the communication device 4103, through the base station 4101, is closed, the communication device 4102 automatically switches into base station operating mode. The communication device 4102 is then referred to as the "new base station". Next, the communication device 4103 starts a procedure for synchronising itself with the new base station 4102, after having performed a detachment procedure with the base station 4101. When the communication device 4103 is synchronised with the communication device 4102, the communication device 4103 uses the procedure defined by the DECT standard for establishing a connection in encrypted mode (exchange of messages 4507 and 4508), in order to exchange confidential data between the communication devices 4102 and 4103.

Morvan, column 41, lines 16-39.

In order for the terminals taught by Miyake to synchronize to one another in the manner taught by Morvan, the terminals and not the base station of the Miyake system would be required to control all communication within the system including synchronization, significantly altering a primary principle of operation of the Miyake system, i.e., that the terminals always synchronize to the base station. Thus, there exists no suggestion or motivation to modify the Miyake or Morvan references as suggested. The

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mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. “One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443 (Fed. Cir. 1992) quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). Consequently, in accordance with M.P.E.P. 2131.02, the teachings of the Miyake and Morvan references cannot be combined in the manner suggested by the examiner, and are not sufficient in and of themselves to render claims 11-27 and 30-34 obvious. Accordingly, the rejection of claims 11-27 and 30-34 under 35 U.S.C. § 103(a) should be withdrawn.

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(8) CONCLUSION

For the foregoing reasons, it is respectfully submitted that the examiner's rejections of claims 1-3 and 6-34 discussed herein under 35 U.S.C. §§ 102,103,112 were erroneous. Accordingly, reversal of all outstanding rejections is earnestly solicited.

PLEASE MAIL CORRESPONDENCE TO: Respectfully Submitted,

Respectfully requested,

Date: June 20, 2005

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CLAIMS APPENDIX

1. A cordless communication system, comprising:
a central unit; and
at least two remote units capable of radio frequency communication with said central unit
and other of said at least two remote units, a first of said at least two remote units
being capable of providing a request to said central unit for a direct connection with
a second of said at least two remote units;
wherein said central unit is capable of assigning a dedicated communication channel for
enabling direct communication between selected ones of said at least two remote
units upon receiving a request from said first remote unit, said central unit
assigning a dedicated communication channel for enabling direct communication
between said first and second remote units, said second remote unit synchronizing
to said first remote unit.
2. The cordless communication system of claim 1, wherein each of said at
least two remote units is further capable of communication with another of said at least two
remote units via a radio frequency connection relayed through said central unit.
3. The cordless communication system of claim 2, wherein each of said
remote units synchronizes to said central unit during communication with said central unit.
6. The cordless communication system of claim 1, wherein said radio
communication comprises time division duplex connections utilizing a time division
multiple access (TDMA) scheme.

7. The cordless communication system of claim 1, wherein said radio communication comprises a frequency hopping spread spectrum (FHSS) scheme and said central unit assigns the dedicated communication channel by assigning a specific hop sequence to selected ones of said at least two remote units.

8. The cordless communication system of claim 1, wherein said radio frequency communication comprises direct sequence spread spectrum (DSSS) scheme and said central unit assigns said dedicated communication channel by assigning a specific spreading code to selected ones of said at least two remote units.

9. The cordless communication system of claim 1, wherein said central unit provides an interface for interfacing the communication system with a network.

10. The cordless communication system of claim 9, wherein the network comprises at least one of a public switched telephone network (PSTN), an integrated services digital network (ISDN), the Internet, and an Intranet.

11. A cordless communication system, comprising:
a central unit; and
at least two remote units capable of radio frequency communication with said central unit;
wherein each of said at least two remote units is capable of communication with another of
said at least two remote units via a radio frequency connection relayed through said
central unit; and
wherein a first of said at least two remote units is further capable of communication with a
second of said at least two remote units via a dedicated radio frequency connection
assigned by said central unit for enabling direct communication between said first
remote unit and said second remote unit, the second remote unit synchronizing to

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said first remote unit during communication with said first remote unit via the dedicated radio frequency connection.

12. The cordless communication system of claim 11, wherein each of said remote units synchronizes to said central unit during communication with said central unit.

13. The cordless communication system of claim 11, wherein a first of said at least two remote units is capable of providing a request to said central unit for a direct connection with a second of said at least two remote units.

14. The cordless communication system of claim 13, wherein upon receiving a request from said first remote unit, said central unit assigns a dedicated communication channel for enabling direct communication between said first and second remote units, said second remote unit synchronizing to said first remote unit.

15. The cordless communication system of claim 11, wherein said radio communication comprises time division duplex connections utilizing a time division multiple access (TDMA) scheme.

16. The cordless communication system of claim 11, wherein said radio communication comprises a frequency hopping spread spectrum (FHSS) scheme and said central unit assigns the dedicated communication channel by assigning a specific hop sequence to selected ones of said at least two remote units.

17. The cordless communication system of claim 11, wherein said radio frequency communication comprises direct sequence spread spectrum (DSSS) scheme and

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said central unit assigns said dedicated communication channel by assigning a specific spreading code to selected ones of said at least two remote units.

18. The cordless communication system of claim 11, wherein said central unit provides an interface for interfacing the communication system with a network.

19. The cordless communication system of claim 18, wherein the network comprises at least one of a public switched telephone network (PSTN), an integrated services digital network (ISDN), the Internet, and an Intranet.

20. A method for providing direct radio frequency communication between remote units in a cordless communication system, comprising:
providing a request to a central unit for direct radio frequency communication between a first remote unit and a second remote unit;
initiating a direct connection between the first remote unit and the second remote unit via a dedicated communication channel assigned to the first remote unit and the second remote unit by the central unit; and
synchronizing the second remote unit to the first remote unit during direct communication between the first remote unit and the second remote unit via the dedicated communication channel.

21. The method of claim 20, further comprising:
determining that communication between the first remote unit and the second remote unit has ended; and
terminating the direct connection between the first remote unit and the second remote unit.

22. The method of claim 21, wherein determining that communication between the first remote unit and the second remote unit has ended comprises providing an indication to the central unit that communication between the first remote unit and the second remote unit has ended.

23. The method of claim 21, wherein initiating a direct connection between the first remote unit and the second remote unit comprises assigning the dedicated communication channel.

24. The method of claim 23, wherein radio communication within the cordless communication system comprises a frequency hopping spread spectrum (FHSS) scheme and assigning the dedicated communication channel comprises assigning a specific hop sequence to the first and second remote units.

25. The method of claim 23, wherein radio frequency communication within the cordless communication system comprises direct sequence spread spectrum (DSSS) scheme and assigning the dedicated communication channel comprises assigning a specific spreading code to the first and second remote units.

26. The method of claim 24, wherein the specific hop sequence assigned to the selected ones of said at least two remote units is orthogonal.

27. The method of claim 25, wherein the specific spreading code assigned to the selected ones of said at least two remote units is orthogonal.

28. The cordless communication system of claim 7, wherein the specific hop sequence assigned to the selected ones of said at least two remote units is orthogonal.

29. The cordless communication system of claim 8, wherein the specific spreading code assigned to the selected ones of said at least two remote units is orthogonal.

30. The cordless communication system of claim 16, wherein the specific hop sequence assigned to the selected ones of said at least two remote units is orthogonal.

31. The cordless communication system of claim 17, wherein the specific spreading code assigned to the selected ones of said at least two remote units is orthogonal.

32. A cordless communication system, comprising:
a central unit;
a first remote unit for radio frequency communication with the central unit, the first unit synchronizing to the central unit during communication with the central unit; and
a second remote unit for radio frequency communication with the central unit and the first unit,
the second remote unit synchronizing to the central unit during communication with the central unit,
wherein upon receiving a request from the first remote unit, the central unit assigns a dedicated radio frequency connection for enabling direct communication between said first remote unit and said second remote unit, the first remote unit functioning as a temporary central unit for the second remote unit during direct communication between the first remote unit and the second remote unit so that the second remote unit synchronizes to the first remote unit.

33. The cordless communication system of claim 32, wherein the radio frequency communication employs a frequency hopping spread spectrum (FHSS) scheme and the central unit assigns the dedicated communication channel by assigning an orthogonal hop sequence to the first and second remote units during direct communication between the first remote unit and the second remote unit.

34. The cordless communication system of claim 32, wherein the radio frequency communication employs a direct sequence spread spectrum (DSSS) scheme and the central unit assigns the dedicated communication channel by assigning an orthogonal spreading code to the first and second remote units during direct communication between the first remote unit and the second remote unit.